Teacher Notes – THE VEHICLE RENTAL COMPANY PART A

Scenario

You have been asked to create a database for the East Berkshire Vehicle Rental Company (EBVRC) . Currently all records are stored on a spreadsheet.

The Company would like to be able to store and report data on how their cars are Hired. The database will record information about:

- Customers and Customer Types
- Vehicles
- Rental Data

The Cars can be Petrol, Hybrid or Electric. The company wants the flexibility to add new cars and customers at a later date.

Customers can on Platinum, Gold or Standard discount models, and each model allows a different percent discount.

If a vehicle rental does not have a return date, that means the customer still has the vehicle out for hire.

Hire costs are for each full day of hire.

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General Information

The activities presented here follow the style of the new 5 hour format for the Unit 2 NEA from Pearson.

This NEA style was created in a direct response to the instances of mass cheating and plagiarism that occurred under the old-style assessment where students had 10 hours to work on a single database. What happened was that student would go online to various forums and share the question paper or the answers.

To respond to this, Pearson has cut down the NEA to 5 hours.

In Part A students are required to build a database and create some simple queries and reports and carry out testing.

In Part B, students are **GIVEN** a brand new database and are required to create forms for this.

The days and times of the exams are set by Pearson and are no longer at the institution's discretion.

The idea is that is it now impossible for students to share answers online. The downside is that although the amount of material for students to produce in the NEA has been substantially reduced, the course content remains the same.

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Part A

Activity 1

The key thing to get across to students here is that this database has the concept of a Composite Primary Key.

Until January 2022, all exams as well as the two published SAMS, assumed that each table had it's own primary key. Each database had a central mapping / junction table which linked two satellite tables in a 1:M relationship.

The thing what that this junction table had it's own primary key.

From January 2022 this changed and so this database reflects this.

The idea is that there is a vehicle table, with a list of all the vehicles available to the company.

There is a Customer table, with a list of all the customers available.

There is a rental table, that contains a CustomerID as a foreign key to the Customer table, and an VehicleID as a foreign key to the Vehicle table.

These two keys combined together make the primary key of a rental. The idea being that any single rental will have a customer and a vehicle.

Longer term, your brighter students will work out that this database is fundamentally unusable, as Customer1 can only rent Vehicle1 once. If there were two entries of Customer1 and Vehicle1 ,then this would violate data integrity rules for duplicate values within a primary key.

More able students would recommend improvements to this database to add rental date to the composite key or to add a separate primary key field, which is standard practice in most commercial databases.

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Activity 2

This should be relatively straightforward.

The key is to:

- Get all the fields correct
- Get the

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